

### **REMARKS**

This reply is submitted in response to the Office Action dated September 25, 2008. Reconsideration of the application is requested.

Claims 2-6, 9-11, and 13-33 are present in this application. Claims 1, 7, 8 and 12 have been cancelled. Claims 18-33 stand withdrawn. Claims 2-6 and 9-16 stand rejected. Claims 2, 13, 16 and 27 are currently amended. Support is found in the claims as filed. No new matter has been added.

#### **Rejoinder**

Applicant requests rejoinder of withdrawn claims 18-33 upon any future indication of allowability.

#### **Rejection under 35 USC § 102(b)**

Claims 2-6 and 12-17 are rejected under 35 USC § 102(a) as being anticipated by Buchwald (US 6,307,087). Specifically the Examiner cites the abstract, column 32, line 22-32, and column 7, lines 40-45. Applicant respectfully disagrees.

To anticipate a claim under 35 USC § 102, a single prior art reference must expressly or inherently disclose each claim limitation. However, simple disclosure of each element is not quite enough. The Federal Circuit has long held that "[a]nticipation requires the presence in a single prior art disclosure of all elements of a claimed invention *arranged as in the claim*." (*Net MoneyIN, Inc. v. Verisign, Inc.*, 88 USPQ2d 1751 (Fed. Cir., 2008) at 1759, (quoting *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323 quoting *Connell*, 722 F.2d at 1548).

Recently, this October 2008 in fact, the Federal Circuit has reaffirmed this stating in *Net MoneyIN*, "We thus hold that unless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. §102."

In the instant application, Applicant submits that: 1) Buchwald does not disclose Applicant's specifically claimed invention, and 2) nothing within the Buchwald discloses, teaches or suggests that one select Applicant's *specific combination* of claim requirements of *inter alia*, a metal atom specifically of iron, cobalt or nickel bound to a bidentate ligand through a nitrogen atom and through a phosphorus atom and thus Buchwald art does not anticipate the claimed invention.

In light of the above Applicant respectfully requests the rejection be withdrawn.

**Rejection under 35 USC § 103(a)**

Claims 9-11 are rejected under 35 USC § 103(a) as being unpatentable over Buchwald (US 6,307,087) in view of Nickias (US 5,994,255). The Examiner suggests that Buchwald's abstract, column 32, line 22-32, and column 7, lines 40-45 discloses a halogenated compound within Applicant's claims 2-6 and 12-17 and that Nickias discloses the substitution of halogens for aminolalkyl, amide, alkoxy, or allyl ligands, thus making claims 9-11 obvious. Applicant respectfully disagrees.

Applicant submits that the mere disclosure in Buchwald of a series catalyst ligands and metals necessarily does not mean that they must coordinate and/or operate in the same way as Applicant's claimed catalyst-metal complex. Applicant has shown, not only based on scientific arguments, but buttressed with disclosure in published prior art documents, how such complexation between metal and ligand in the cited prior art is not inherent and thus not predictable. Applicant has made these points most recently in the Canich Declaration previously submitted in July of 2008. The Canich Declaration is SWORN EVIDENCE that must be given due weight by the Examiner. In particular, paragraph 6 of the Canich Declaration describes why the Examiner's hypothesis that Buchwald anticipates the claimed invention is incorrect. The Examiner relies on the combination of a metal precursor (e.g.  $\text{NiCl}_2[\text{P}(\text{C}_6\text{H}_5)_3]_2$ ) and "a ligand reading on the limitation of the instant claims in general structure 4, where certain embodiments include  $\text{R}_1$  and  $\text{R}_2$  are hydrogen (col. 7, lines 5-45), reading on Y being biphenyl" to form a composition of matter of claim 1 of the instant application. The Examiner gives no unequivocal reference that such a reaction would or could take place, while Canich's declaration in paragraph

6 cites several references which scientifically show the structure of the corresponding palladium complex to be a structure different from the claimed invention. Buchwald states "Catalysts containing palladium and nickel are preferred. It is expected that these catalyst will perform similarly because they are **KNOWN TO UNDERGO SIMILAR REACTIONS**, namely oxidative-addition reactions and reductive-elimination reactions which are thought to be involved in the formation of the products of the present invention" (col 31, lines 40-45, emphasis added). Hence Buchwald, in combination with the three references cited in paragraph 6 of Canich's declaration would imply a combination of a nickel based metal precursor with a ligand as described by the Examiner would form a complex outside the scope of claim 1 of the instant application. Furthermore, of the 58 examples in Buchwald, not a single example uses a nickel compound or nickel precursor compound. Buchwald never accidentally made the complex of claim 1, and teaches away from the complex of claim 1 by inferring that the chemistry of nickel and palladium are similar.

Further Nickias relates to polymerization catalysts using Group 4 metals. One of ordinary skill in the art would not think to combine a small molecule catalyst of Ni or Pd with parts of a polymerization catalyst using a Group 4 (Ti, Zr, Hf) metal.

Nickias does not teach or suggest combinations of activators with metal-phosphoamine ligand complexes. Further, Nickias does not suggest cobalt, iron or nickel as useful metals. Likewise the Group 4 metals Nickias does disclose are not claimed by the Applicant. Thus nothing within Nickias (or Buchwald for that matter) suggests combining the two references and there is no unchallenged reason on the record stating why one of ordinary skill in the art would combine the references.

The Examiner has offered no basis, and Applicant can also find no basis, for combination of a concept applicable to titanium-cyclopentadienyl catalytic complexes for making olefin polymers with late transition metal-diphosphine/phosphoamine ligand complexes disclosed for functionalized compounds or asymmetrically substituted small molecules (Buchwald). As such, even the combination of Buchwald and Nickias does not disclose or suggest all the elements of the currently pending claims and thus does not render obvious the claimed invention.

Further the Examiner cites Kohlpaintner (US 5,777,087) for the proposition that halo, hydrocarbyl, amide, hydrocarbyloxy, aminohydrocarbyl, and allyl ligands can be substituted for one another and are seen as functional equivalents. Applicant respectfully disagrees. Oddly, column 4, lines 8-36 cited by the Examiner is mostly a laundry list for the metal, not for a leaving group, assuming L is actually a leaving group for the catalyst. Kohlpaintner only refers to L as any ligand which can be bound to M'. Perhaps the Examiner has misquoted the reference? Clarification is requested. Furthermore, Kohlpaintner is directed towards water soluble sulfonated aryl diphosphine based catalysts used for asymmetric synthesis, not polymerization. Kohlpaintner lists numerous classes of reactions where the catalyst can be used (col. 10, lines-28-38). Polymerization is notably absent from the long list of chemical processes.

Applicant respectfully submits that the Examiner cannot merely cite portions of references and generalize their applicability to cobble together a rejection asserting that a selective combination of such scattered elements (or, even worse, a combination of such scattered elements and some elusive knowledge of an alleged skilled artisan) without a motivation or suggestion for one of ordinary skill in the art to do so. The number of elements of the cited prior art that one of ordinary skill in the art would have had to ignore, alter, generalize, or reason away in contradiction of the references themselves in order to attain the claimed invention seems to be more than the number of elements from the cited prior art on which the Examiner relies to render obvious the claimed invention. Applicant also asserts that, even if such a combination of elements from the prior art were somehow supported by scientific rationale on the record, Applicant's sworn testimony offering scientific rationale to rebut the Examiner's rationale is not given due weight nor appropriately rebutted on the record.

In light of the above, Applicant respectfully request that the rejections be withdrawn.

#### **Response to Examiner's Comments**

Applicant respectfully submits that the Canich Declaration has not been given its due weight as sworn evidence. The Examiner has argued that the declaration is mere opinion and thus is "given little weight". Applicant respectfully disagrees. The Canich Declaration is Dr. Canich's opinion (as one of ordinary skill in the art) *backed up by scientific rationale and evidence*. If the

Examiner wishes to contest the validity of statements made in this Declaration, it is proper that he do more than offer mere Examiner argument or conclusory statements to do so – he must take Official Notice, cite published prior art contradicting this sworn testimony, or offer contradictory sworn testimony based on clear scientific reasoning (*e.g.*, in the form of a declaration or affidavit), if he wishes to cast sufficient doubt over its validity to put the burden of proof back on Applicant. *See In re Zurko*, 258 F.3d 1379, 1385, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001) (“[T]he Board [or an examiner] cannot simply reach conclusions based on its own understanding or experience or on its assessment of what would be basic knowledge or common sense. [T]he Board [or an examiner] must point to some concrete evidence in the record in support of these findings [to satisfy the substantial evidence test]. If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. The Board [or an examiner] cannot rely on conclusory statements when dealing with particular combinations of prior art and specific claims, but must set forth the rationale on which it relies.”) (Emphasis added); *see also* M.P.E.P. § 2144.03. Thus, the Examiner cannot ignore the Canich Declaration simply because he disagrees with it. The Declaration, particularly this declaration which is supported by scientific reasoning *in the declaration*, must be considered as evidence by the Examiner and not summarily dismissed.

The Examiner states that Applicant's argue with Examples using palladium and that the rejection and the claims are not directed to palladium. Applicant respectfully notes that the Examples in Buchwald are palladium examples. Applicant is certainly entitled to discuss the examples in the prior art cited by the Examiner and to make comparisons to other art. Furthermore, other than Applicant's compounds, there are no other Ni compounds of this type to argue (as CAS reflects in its database). How can Applicant be expected to find and argue prior art for Ni compounds when they never existed before the instant application? It is fair and reasonable for the Applicant to discuss the palladium when Buchwald equates the nickel and palladium compounds. Applicant's sworn declaration then shows with scientific reasons and support *why* the nickel and the palladium are NOT equivalent and thus why Buchwald does not disclose the

claimed invention.

The Examiner also states that "Buchwald teaches that catalysts such as his may be used for polymerization. Applicant respectfully disagrees and submits that such a statement is a misreading of Buchwald. The statement at Column 1 lines 15- 20 is "Transition metal catalyst complexes play important roles in many areas of chemistry, including the preparation of polymers and pharmaceuticals." This sentence is the first sentence of the "BACKGROUND OF THE INVENTION" and is a simple sentence orienting the reader to general uses of transition metal catalyst complexes of which there are tens of thousands. Nowhere in this sentence is it indicated that Buchwald's disclosed compounds are to be used to make polymers. One of ordinary skill in the art reading this statement in the background section would not interpret this sentence as meaning Buchwald's compounds are polymerization catalysts. This position is supported by Dr. Canich's declaration (paragraph 5) which clearly explains why one of ordinary skill in the art would not find Buchwald to disclose polymerization with his compounds. Applicant respectfully submits that Dr. Canich's conclusion, supported by clear and unchallenged reasoning, takes precedence over the Examiner's brief and unsupported conclusory statement.

### **Related Application**

This application relates to similar subject matter in USSN 10/692,827, filed October 24, 2003. The Examiner is encouraged to review both applications in light of each other.

For completeness, Applicants note that the Examiner cited US Patent No. 3,991,259; US Patent No. 5,658,982; US Patent Application No. 2005/0003955; Fabian et al., *Modeling the Chromatographic Enantioseparation of Aryl- and Hetarylcarbinols on ULMO, a Brush-type Chiral Stationary Phase, by 3D-QSAR Technique*, Chirality, Vol. 15, No. 3, pages 271-275; Daniel, *Quantitative Chemical Analysis*, 5<sup>th</sup> Edition, 1982, pages 306-329; Shiver et al., *Inorganic Chemistry*, 3<sup>rd</sup> Edition, 1999, pages 245-247, 467-482 and 562; and McDonough, *Thermodynamics and Kinetic Studies of Ligand Binding, Oxidative Addition, and Group/Atom Transfer in Group VI Metal Complexes*, 2005, University of Miami, page 66 in related case USSN 10/692,827.

### **Double Patenting**

Claims 2-6 and 9-17 have been provisionally rejected under the judicially-created doctrine of obvious-type double patenting (ODP) over claims 1-10, 12, 13, 15-20, 28-31 and 36-40 of U.S. Serial No. 10/692,827 ("the '827 application"), filed October 24, 2003.

Applicant notes that the rejection of Claims 2-6 and 9-17 under the judicially created doctrine of obvious type double patenting over claims 1-20, 27-31 and 36-40 of USSN 10/692,827, filed October 24, 2003 was withdrawn on page 3 of the Office Action dated February 22, 2008.

Since the ODP rejection was withdrawn in a previous office action, and the Examiner has not mentioned reinstating the rejection, Applicant presumes the current ODP rejection is an error. However in the event the Examiner is reinstating the rejection, Applicant submits that the claims in '827 are to catalyst systems (e.g. catalyst compounds combined with activators) and the instant claims are to catalyst compounds. In the instant application, the Office restricted catalyst/activator combinations as a separate invention in the office action dated November 15, 2005. Therefore Applicant respectfully submits that under the Office's own logic, the instant claims are to a different invention. Specifically the instant claims are to a catalyst compound and the '827 claims are to a catalyst system. Since catalyst system claims were restricted out in the instant application, Applicant submits that it is now inconsistent to assert that the current claims are obvious over another similar set of catalyst system claims. Thus, Applicant submits that the instant claims should not be subject to an obviousness-type double patenting rejection over '827.

Furthermore, Applicant also respectfully submits that with regard to obviousness type double patenting rejections, if the applications have the same effective filing date (which 10/692,827 and the instant application do) according to MPEP § 804 I.B.1, *"the examiner should determine which application claims the base invention and which application claims the improvement (added limitations). The ODP rejection in the base application can be withdrawn without a terminal disclaimer."*

In the event the Examiner does not withdraw the obviousness type double patenting rejection, Applicant respectfully requests that the Examiner make the determination of which application is the "base" application and which application is the "improvement" application.

**CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance and respectfully requests notice of such.

Please charge any deficiency in fees or credit any overpayments during the entire pendency of this case to Deposit Account No. 05-1712. Please also charge any petition fees, including fees for extensions of time necessary for the pendency of this case or copendency of this application with another application at any time to Deposit Account No. 05-1712. Any comments or questions concerning the application can be directed to the undersigned at the telephone number given below.

Respectfully submitted,

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